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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,772	04/04/2001	Laure Seguin	205513US2	1507
22850	7590	06/13/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			LY, ANH VU H	
			ART UNIT	PAPER NUMBER
			2667	

DATE MAILED: 06/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/824,772

Applicant(s)

SEGUIN, LAURE

Examiner

Anh-Vu H. Ly

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-10 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 11-17 and 21-29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Amendment***

1. This communication is in response to applicant's amendment filed April 18, 2005.

Claims 1-29 are pending.

***Claim Objections***

2. Claim 6 is objected to because of the following informalities: Examiner believes claim 6 should depend upon claim 5 instead of claim 4 since claim 5 recites assigning a set level in line
3. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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3. Claims 1-4 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Ahmadvand (US Patent No. 6,477,670 B1).

With respect to claim 1, Ahmadvand discloses in Fig. 2, an UMTS system comprises RRC 44, RLC 70, MAC 80, and Physical Layer 20. Ahmadvand discloses (col. 6, lines 29-32) that the subflow processing module 71 initiates a QoS plane for each CoS under the supervision of RRC unit 44 (a layer configured to manage the physical resource and to guarantee a quality of service). Ahmadvand discloses (col. 5, lines 57-61) that D-RLC and C-RLC receive the IP data packets 45, create the RLC PDUs, or RLC frames (a first sub-layer configured to supply a transmission support in accordance with the quality of service and to segment the data into transmission units) and deliver the RLC frames over logical channels 15 to the MAC sub-layer 80 (a second sub-layer) to be multiplexed onto different transport channels 25 (a second sub-layer configured to transmit at least one of the transmission units over the physical resource during each of transmission time intervals) (herein, the time for receiving and multiplexing RLC frames on different transport channels 25 to transmit to the physical layer for propagation to the receiving end is considered as transmission time intervals and only during these transmission time intervals, the MAC sub-layer 80 can access the physical resource) and forwarded to the physical layer (Fig. 3) (a physical layer configured to perform error correction coding or decoding of the data). Ahmadvand discloses (col. 6, lines 62-65) that the size of a sequence frame 74 (size of transmission units) may be variable and dynamically optimized in different QoS planes based on the QoS requirements and on the radio link conditions (the first sub-layer reducing a size of at least one of the transmission units when transmission conditions on the physical resource are degraded).

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With respect to claim 2, Ahmadvand discloses (col. 6, lines 62-65) that the size of a sequence frame 74 may be variable and dynamically optimized in different QoS planes based on the QoS requirements and on the radio link conditions. This implies that the sizes of transmission units for different transmission time intervals are varied and also smaller size increases reliability (the layer determines a plurality of sizes of the transmission units for the transmission time intervals and the second sub-layer selects one of the plurality of sizes according to the transmission conditions, the second sub-layer selecting a smaller one of the plurality of sizes when the transmission conditions on the physical resource are degraded).

With respect to claim 3, Ahmadvand discloses (col. 6, lines 29-32) that the subflow processing module 71 initiates a QoS plane for each CoS under the supervision of RRC unit 44. Further, Ahmadvand discloses (col. 6, lines 62-65) that the size of a sequence frame 74 may be variable and dynamically optimized in different QoS planes based on the QoS requirements and on the radio link conditions. This means that each QoS plane, under the direction of RRC, creates RLC PDU frame according to a unique frame size (the layer adjusts the size of each of the transmission units according to the transmission conditions and transmits the size adjusted to the second sub-layer).

With respect to claim 4, Ahmadvand discloses (col. 6, lines 62-65) that the size of a sequence frame 74 may be variable and dynamically optimized in different QoS planes based on the QoS requirements and on the radio link conditions (the layer reduces the size of each of the transmission units when the transmission conditions on the physical resource are degraded).

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With respect to claim 8, Ahmadvand discloses in Fig. 3, architecture of the UMTS protocols (A UMTS mobile telephone system using the system of claim 1).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahmadvand (US Patent No. 6,477,670 B1) in view of Sarkkinen et al (US Pub 2001/0033582 A1). Hereinafter, referred to as Ahmadvand and Sarkkinen.

With respect to claims 9 and 10, Ahmadvand discloses (col. 6, lines 62-65) that the size of a sequence frame 74 may be variable and dynamically optimized in different QoS planes based on the QoS requirements and on the radio link conditions. Ahmadvand does not disclose the layer supplies to the second sub-layer the plurality of sizes by means of a table. Sarkkinen discloses on page 4, 58<sup>th</sup> paragraph, that the UTRAN/MAC will obtain a TFC (table) from RRC and will make a TF selection for an upcoming TTI. It will inform the UTRAN/Tr-RLC of the appropriate data block size and data block set size. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the feature of sending a TFC to second sub-layer in Ahmadvand's system, as suggested by Sarkkinen, to select an appropriate size for the transmission units.

5. Claims 7 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahmadvand (US Patent No. 6,477,670 B1) in view of Johansson et al (US Patent No. 6,473,399 B1). Hereinafter, referred to as Ahmadvand and Johansson.

With respect to claims 7 and 18-20, Ahmadvand discloses in Fig. 3, a method for encapsulating and creating an RLC frame in UMTS system. Ahmadvand does not disclose that the layer is configured to retransmit the transmission units if acknowledgement is not received. Johansson discloses in Figs. 3 and 5-8, an UMTS system 64 enables retransmissions when acknowledgments are not received. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the feature of retransmissions when acknowledgments are not received in Ahmadvand's system, as suggested by Johansson, to guarantee that packets are delivered correctly.

#### ***Allowable Subject Matter***

6. Claims 5-6, 11-17, and 21-29 (assumed claim 6 depends on objected dependent claim 5 since both claims 5 and 6 mentioned the SIR level) are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

7. Applicant's arguments filed April 18, 2005 have been fully considered but they are not persuasive.

Applicant argues in page 12 that Ahmadvand does not address the notion of transmission time interval and does not disclose the second sub-layer configured to transmit at least one of the transmission units over the physical resource during each transmission time interval, the

transmission time interval being a periodic time interval during which the second sub-layer is allowed to access the physical resource.

Examine respectfully disagrees. Ahmadvand discloses (col. 5, lines 57-61) that D-RLC and C-RLC receive the IP data packets 45, create the RLC PDUs, or RLC frames and deliver the RLC frames over logical channels 15 to the MAC sub-layer 80 (a second sub-layer) to be multiplexed onto different transport channels 25 (a second sub-layer configured to transmit at least one of the transmission units over the physical resource during each of transmission time intervals) and forwarded to the physical layer. Herein, the time for receiving and multiplexing RLC frames on different transport channels 25 to transmit to the physical layer for propagation to the receiving end is considered as transmission time interval or periodic time interval and only during these transmission time intervals, the MAC sub-layer 80 can access the physical resource.

Applicant is not required to re-submit "Amendment to the specification" and "Amendment to the claims" sections. Only the corrected section of the non-compliant amendment document must be resubmitted (in its entirety) in accordance with 37 CFR 1.121(h). Herein, only the Abstract needs to be resubmitted. However, Applicant has already filed for the Abstract on April 18, 2005.

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after



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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh-Vu H. Ly whose telephone number is 571-272-3175. The examiner can normally be reached on Monday-Friday 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

avl

  
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